

# Work Order ID 76254

November-08-11 7:48:18 AM

**\*76254\***

Page 1

Item ID: D350-748-201

Revision ID:

Item Name: Crosstube Installation, High Aft

Start Date: 08/11/2011 Start Qty: 1.00

Required Date: 28/11/2011 Req'd Qty: 1.00

Reference:

Approvals:

Process Plan: MCS

Date: 11/11/08

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

**\*N9000040100\***

Setup Start **\*NS1\***

Stop **\*NS2\***

Cust Item ID:

Customer:

Run Start **\*NR1\***

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D350-748-241	F

100

**\*100\***

DC

Document Control

DOCUMENT CONTROL

Memo

Photocopy bluefile & type labels per PPPD350-748-201

CHG002

5/12/14

110

**\*110\***

CNC Bend 2

CNC Alpha 160 Bender

BENDING MACHINE - CROSSTUBES

Memo

Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT \_\_\_\_\_

DP

12 - 1-19

120

**\*120\***

QC

Quality Control

QC15- Crosstube Dimensional Check

Memo

5/12/14

W/O: 76254		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D 350-748-201 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☐ No ☒ DQA: [Signature] Date: 12/03/14

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: MLT Date: 12/03/14

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12.03.08	110	Tube crushing is over tolerance after handling one height is over tolerance	<u>GP</u> 12.03.08 <u>Q5/MLT</u>	Acceptable REF ATTACHED SR	N/A	<u>S</u> 12/03/08	<u>GP</u> 12.03.08 <u>Q5/MLT</u>	<u>S</u> 12/03/08

NOTE: Date & initial all entries

November-08-11 7:48:18 AM

**\*76254\***

Page 2

**\*N900040100\***

Setup Start **\*NS1\***

Stop **\*NS2\***

**\* 1 \***

**\* 1 \***

**Reference:**

Run Start \*NR1\*

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

125

0.00

**\*125\***

0.00

HandFXtube

## Hand Finishing Crosstubes

## Memo

\*\*\*Stress relief\*\*\*

Heat treat crosstube as per QSI010 4.3

Temp: 375

Start time: 4h30

Finish time: 8h30

127

QC5- Inspect part completeness to step on W/O

0.00

**\*127\***

0.00

QC

## Quality Control

## Memo

8.2/3/09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 76254

**\*76254\***

Page 3

November-08-11 7:48:18 AM

Item ID: D350-748-201

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Installation, High Aft

Start Date: 08/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 28/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Run Start **\*NR1\***

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

0.00

**\*130\***

Crosstubes

Crosstubes

Memo

0.00

1-Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs,  
Set-up drill table as per QSI 010

2-Deburr

3-Engrave Part # and Batch # as per Dwg D350-748-241

4-Remove all marks from tube within limits of D350-748-241

5- Apply a light coat of LPS3 on the interior of tube

Batch: M110 779

140

QC6- Inspect dimensions to drawing

0.00

**\*140\***

QC

Memo

0.00

Quality Control

Issue PO 14341 as per QSI 0380  
ASTM 1417 Level 2

M/12-08-2

MO/  
TW

12/1/24

12-1-25

12/1/25

W 12-04-25 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 76254

**\*76254\***

Page 4

November-08-11 7:48:18 AM

Item ID: D350-748-201 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Crosstube Installation, High Aft  
 Start Date: 08/11/2011 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 28/11/2011 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Outsource process-Cadplate per QSI017 4.1.9.1	0.00							
<b>*150*</b>									
Outsource3	Memo	0.00							
Outsource process - Cad plate	Issue P/O: <u>15990</u> Stress relief at 375° for 5 hours Magnetic Particle Inspect per ASTM E1444 Cadium Plate per AMS-QQ-P-416B, Class 1, Type 2 Embrittle relief at 375° for 8 hours, Chromate Treat Possible Supplier: Southwest United Industries Ensure Certificate of Conformity is attached								<u>CL 12/01/25 (1)</u>
160	Receive & Inspect for Damage & Mat'l Certs	0.00							
<b>*160*</b>									
Packaging	Memo	0.00							
Packaging	Ensure certificate of conformity is attached								<u>11/23/08 (1)</u> P10 →
170	QC5- Inspect part completeness to step on W/O	0.00							
<b>*170*</b>									
QC	Memo	0.00							
Quality Control									

**POSITIVE RECALL**

EFFECTIVE 12.01.09 AUTH df  
 RELEASED W DATE 12.03.08

FOR CRUSHING

W/O: 76254		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D38-748201 PAR #: \_\_\_\_\_ Fault Category: X-tube NCR: Yes No DQA: Auto Date: 12/03/14  
 Resolution: Re-work Disposition: Re-work QA: N/C Closed: MLT Date: 12/03/14

NCR: 12-1249		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/03/15	#170	tube has indentation found at NDT inspection E.C. Pass.	CP 12.03.05 BS/042	grains out marks Re NDT inspect send to Heli. traces	MO 12/3/14	S 12/3/14	CP 12.03.05 BS/042	S 12/03/15
				for CAD touchup P/O # 116345 see cl + attached r/c to W/O	CD 12/03/05 x1 CD 12/03/18 x1	S 12/13/105	CP 12.03.05 BS/042	S 12/03/15

NOTE: Date & initial all entries



**Work Order ID 76254****\*76254\***

Page 5

November-08-11 7:48:18 AM

Item ID: D350-748-201

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Installation, High Aft

Start Date: 08/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 28/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180		0.00							
<b>*180*</b>	SprayPaint					AS	12	3	12
SprayPaint	Memo	0.00							
Spray Painting	1-Prime inside crosstube as per QSI 005 4.2	8:00-8:30							
	2-Paint Outside of Tube as per Dart QSI 005 4.2	12:30-1:15							
190	QC14- Inspect Spray Paint	0.00							
<b>*190*</b>									
QC	Memo	0.00				N	12	03	13 ①
Quality Control	Then, Wrap in plastic bag to protect from scratches								
200		0.00							
<b>*200*</b>	Crosstubes					AS	12	3	13
Crosstubes	Memo	0.00							
Crosstubes	1-Install Ground wire Insert, then insert screw and washer								
	2-Install Abraison strips as per Dwg D350-748-241 & QSI 035.								
	3-Install supports Using Dt8876 as per Dwg D350-748-241, Torque to 60-80 IN-LBS								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 76254****\*76254\***

Page 6

November-08-11 7:48:18 AM

Item ID: D350-748-201

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Installation, High Aft

Start Date: 08/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 28/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

210

QC5- Inspect part completeness to step on W/O

0.00

**\*210\***

QC

Memo

0.00

Quality Control

220

Pick Kit

0.00

**\*220\***

Packaging

Memo

0.00

Packaging

230

QC4- 100% Inspect kits for completeness

0.00

**\*230\***

QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 76254

**\*76254\***

Page 7

November-08-11 7:48:18 AM

Item ID: D350-748-201 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Crosstube Installation, High Aft  
 Start Date: 08/11/2011 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 28/11/2011 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240		0.00							
<b>*240*</b>	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPPD350-748-201								
	Location: _____								
	PPP Rev: <u>B</u> <u>12/03/14</u>								
250	QC21- Final Inspection - Work Order Release	0.00							
<b>*250*</b>									
QC	Memo	0.00							
Quality Control									

12/03/14

MLJ 12/03/14

12-03-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

November-08-11 7:48:23 AM

Work Order ID: 76254

\*76254\*

Parent Item: D350-748-201

\*D350-748-201\*

Parent Item Name: Crosstube Installation, High Aft

Start Date: 08/11/2011

Required Date: 28/11/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: A New Issue 06-07-05 JLM  
 IPP Rev: B Update qty of MS21042L5 06-09-12 KJ  
 IPP Rev C Combined manufacturing 08.04.02 EC verified by: DD  
 IPP Rev:D 08-06-24 revD as per dwg DD verified by:EC  
 IPP Rev: E 08.12.11 Step17 was step 21 KJ Verified by:EC IPP Rev:F  
 10.08.04 added QSI010 4.3 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D350-748-241TRN

Manufactured

No

110

Each

3.0000

1

1

\*D350-748-241TRN\*

\*\*

Crosstube Turning Detail

DP 12-1-19

## Location

## Loc Qty

## Loc Code

LG

73379

2

61314

0

61315

0

70654

1

72332

1

LG003

1

68840

1

ALS4-1032-225

Purchased

No

200

Each

2,418.000

1

1

\*AI S4-1032-225\*

\*\*

Insert

AS 12-3-13

## Location

## Loc Qty

## Loc Code

ST281

2418

108696

498

110768

62

118386

858

118966

1000

AN960JD10

NAS1149D0363J

Purchased

No

200

Each

0.0000

1

1

\*AN960.ID10\*

\*\*

Washer

120308

AS 12-3-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

November-08-11 7:48:23 AM

Work Order ID: 76254

**\*76254\***

Parent Item: D350-748-201

**\*D350-748-201\***

Parent Item Name: Crosstube Installation, High Aft

Start Date: 08/11/2011

Required Date: 28/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2856-400

Manufactured No

200 f

304.0945

1.181

1.243158

**\*D2856-400\***

Abraison Strip

\*\*

AS 12-3-13

Location

Loc Qty

Loc Code

ST403

0.3149

68076

0.3149

ST409

303.7796

63735

0.6696

71164

87.11

73491

216

1- cut as per dwg D2856

D3502-1

Manufactured No

200 Each

37.0000

2

2

**\*D3502-1\***

Support

\*\*

AS 12-3-13

Location

Loc Qty

Loc Code

ST063

37

68951

3

72120

14

73419

20

MS21920-20

Purchased No

200 Each

72.0000

2

2

**\*MS21920-20\***

Clamp (per MIL-DTL-8783C)

\*\*

AS 12-3-13

Location

Loc Qty

Loc Code

LG050

72

116799

10

118649

12

119386

50

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# : Picklist Print

November-08-11 7:48:23 AM

Work Order ID: 76254

**\*76254\***

Parent Item: D350-748-201

**\*D350-748-201\***

Parent Item Name: Crosstube Installation, High Aft

Start Date: 08/11/2011

Required Date: 28/11/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-10

Purchased

No

200

Each

304.0000

1

1

**\*MS27039-1-10\***

Screw

\*\*

AG 12-3-13

Location

Loc Qty

Loc Code

ST291 120120

304

118612

154

119307

100

119531

50

AN4-41A

Purchased

No

220

Each

305.0000

8

8

**\*AN4-41A\***

Bolt

\*\*

Location

Loc Qty

Loc Code

ST360

305

115108

3

115705

7

116191

20

117619

50

117795

25

118451

50

118838

50

119328

100

AN4-6A

Purchased

No

220

Each

5,476.000

16

16

**\*AN4-6A\***

Bolt

\*\*

Location

Loc Qty

Loc Code

ST356

476

118838

276

119127

200

ST516

5000

119017

5000

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector,

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# : Picklist Print

Page 4

November-08-11 7:48:23 AM

Work Order ID: 76254

**\*76254\***

Parent Item: D350-748-201

**\*D350-748-201\***

Parent Item Name: Crosstube Installation, High Aft

Start Date: 08/11/2011

Required Date: 28/11/2011

Start Qty: 1.00

Required Qty: 1.00

AN5-32A Purchased No 220 Each 195.0000 4 4

**\*AN5-32A\***

Bolt

\*\*

120717

Location

Loc Qty

Loc Code

ST339

195

118422

20

118628

50

118983

25

119328

100

AN960JD416 NAS1149D0463J Purchased No 220 Each 0.0000 32 32

**\*AN960.ID416\***

Washer

\*\*

120644

AN960JD516 NAS1149D0563J Purchased No 220 Each 0.0000 8 8

**\*AN960.ID516\***

Washer

\*\*

1119217

D3500-1 Manufactured No 220 Each 16.0000 4 4

**\*D3500-1\***

Saddle

\*\*

73406

Location

Loc Qty

Loc Code

ST424

4

70695

4

ST427

12

73407

12

D3501-1 Manufactured No 220 Each 237.0000 16 16

**\*D3501-1\***

Bushing

\*\*

11/13/14

Location

Loc Qty

Loc Code

ST063

237

67757

4

70682

100

73391

133

70682

November-08-11 7:48:23 AM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Page 5

November-08-11 7:48:23 AM

Work Order ID: 76254

\*76254\*

Parent Item: D350-748-201

\*D350-748-201\*

Parent Item Name: Crosstube Installation, High Aft

Start Date: 08/11/2011

Required Date: 28/11/2011

Start Qty: 1.00

Required Qty: 1.00

MS21042L4

Purchased

No

220

Each

12,685.00

24

24 ~

\*\*

*[Handwritten signature]*

\*MS21042I 4\*

Nut

Location

Loc Qty

Loc Code

ST300

1685

117441

51

117601

532

118451

133

118927

969

ST516

6000

119017

6000

ST518

5000

119075

5000

119075

MS21042L5

Purchased

No

220

Each

2,358.000

4

4 ~

\*\*

*[Handwritten signature]*

\*MS21042I 5\*

Nut

Location

Loc Qty

Loc Code

ST300

858

116105

5

116548

43

117611

62

118179

496

118910

252

118179

ST518

1500

119109

1500

November-08-11 7:48:23 AM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

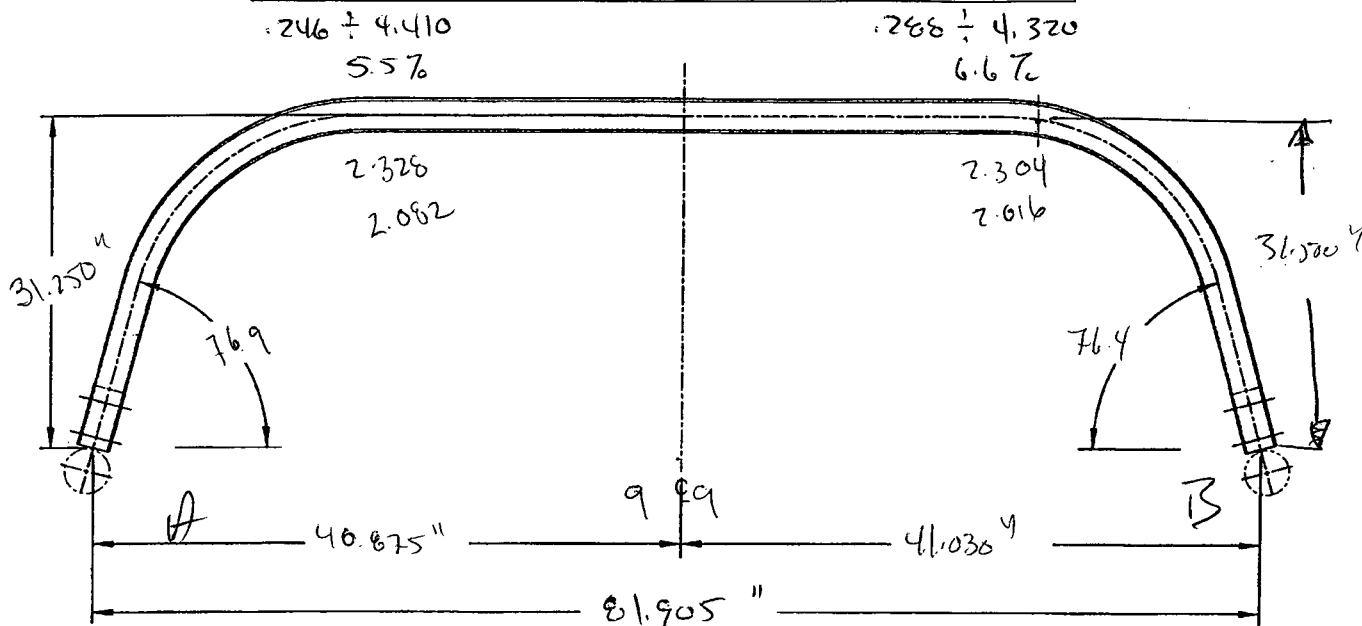
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 76254
<b>Description:</b> Crosstube High Aft (AS350/355)	<b>Part Number:</b> D350-748-201
<b>Inspection Dwg:</b> D350-748-241 <b>Rev:</b> E	<b>Page 1 of 1</b>

Required Dimension	Min	Max
Height	31.22	31.48
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06



Comments
Twist = 0.109"
Site A = 5.5% crush @ 9 Passes
Site B = 6.6% crush @ 9 Passes
Acceptable CP 12.03.02 05/04/22

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	10.08.23	Dwg Rev updated	KJ	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Item	Qty -241	Part Number	Description
1	X	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
2	1	D6015-125	CROSSTUBE (OR D6018-125)
3	2	D3502-1	SUPPORT
4	2	D2856-400-710	ABRASION STRIP
5	1	AELS-1032-225	INSERT
6	1	NAS1149D0363J	WASHER (OR AN960JD10)
7	2	MS21920-20	CLAMP (PER DART SPEC. M-MS21920-20)
8	1	MS27039-1-10	SCREW

#### GENERAL NOTES:

- MATERIAL: MANUFACTURED FROM D6015-125 OR D6018-125  
FINISHED LENGTH = 122.700±0.06
- FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2  
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- IDENTIFICATION: DART PART NUMBER "D350-748-241" AND BATCH NUMBER ON INSIDE OF CUFF  
PER DART QSI 044 6.4 (VIBRATING STYLUS)
- WEIGHT: 29.85 lbs
- PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.297 HOLE.
- RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT ALL EDGES FROM MACHINING  
LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER  
BENDING.
- BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES. MAXIMUM TUBE FLATTENING DUE TO  
BENDING IS 6% BASED ON O.D.
- HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS 2759-1C AFTER TURNING. ACCEPTABLE TO  
VERIFY TENSILE STRENGTH BY HARDNESS TEST PER ASTM E18 TO 40-45 HRC.
- INSTALL D2856-400-710 ABRASION STRIPS WITH A GAP ON BOTTOM SIDE OF CROSSTUBE,  
CENTERED OPPOSITE D3502-1 SUPPORT, PER QSI 035.
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE  
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES,  
NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY.  
CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE  
MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO  
CRACKING/CHIPPING/GROOVES.
- TORQUE CLAMPS 60 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT  
NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- MAX TWIST AFTER BENDING: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN  
CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.25 (ZN C1-3).

SILENT COPY  
 RETURN TO  
 ENGINEERING  
 UNCONTROLLED COPY  
 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 WORK ORDER

NO. 76254 M.L.J  
 11/11/08

RELEASED  
 2011-01-08  
 MP

F	ADD HRC TEST OPTION (B8-1) PER PAR 09-040, ADD TWIST LIMIT (A8-1, C1-3), ADD D6015-125 OPTION (C8-1), STOCK DIM NOW MACHINED (D1-4)	CP	10.11.23
E	REVISE GENERAL NOTES; UPDATE TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 08-046 (ZN A8-3); ADD TOLERANCES (ZN C6-3, D2-3)	RF	09.09.30
D	MAG. PARTICLE AND CAD PLATE AS MFD.	CP	06.10.31
C	ADD CAD PLATING	CP	06.08.14
B	ADD D6018-125 & PRIME AND PAINT	CP	06.06.30
A	NEW ISSUE	CP	06.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN	qp	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	qp		
CHECKED	h		
MFG. APPR.	E		
APPROVED	h		
DE APPR.	h		
DATE	10.11.23	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT IT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWING NO. D350-748-241		REV. F	SHEET 1 OF 4
TITLE CROSSTUBE (AS 350/355 HI AFT)		SCALE NTS	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

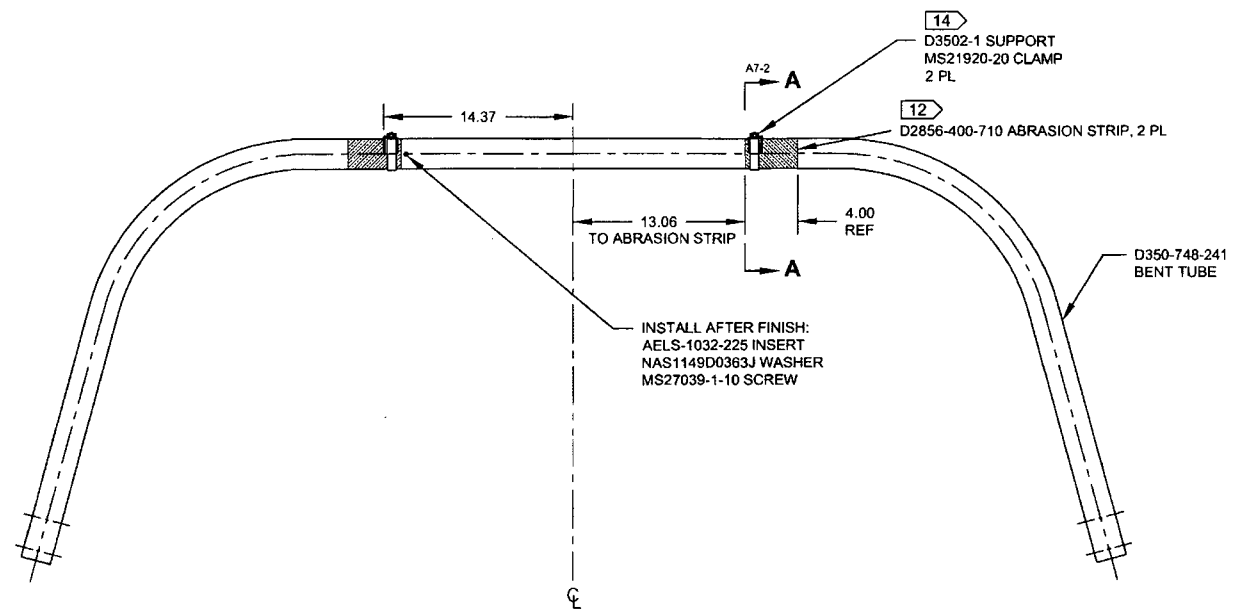
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

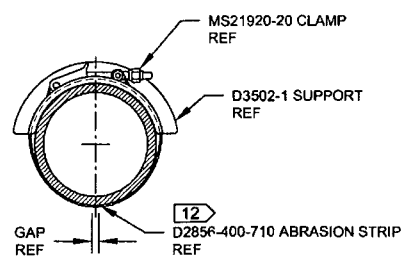
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

76254



**D350-748-241  
ASSEMBLY DETAIL**



**SECTION A-A** D4-2  
SCALE 4X

**RELEASED**  
2011-03-19  
JMT

DESIGN	90	<b>DART AEROSPACE LTD</b>	
DRAWN	90	HAWKESBURY, ONTARIO, CANADA	
CHECKED	15	DRAWING NO.	REV. F
MFG. APPR.	15	D350-748-241	SHEET 2 OF 4
APPROVED	15	TITLE	SCALE
DE APPR.	15	CROSSTUBE (AS 350/355 HI AFT)	NTS
DATE	10.11.23	<small>COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

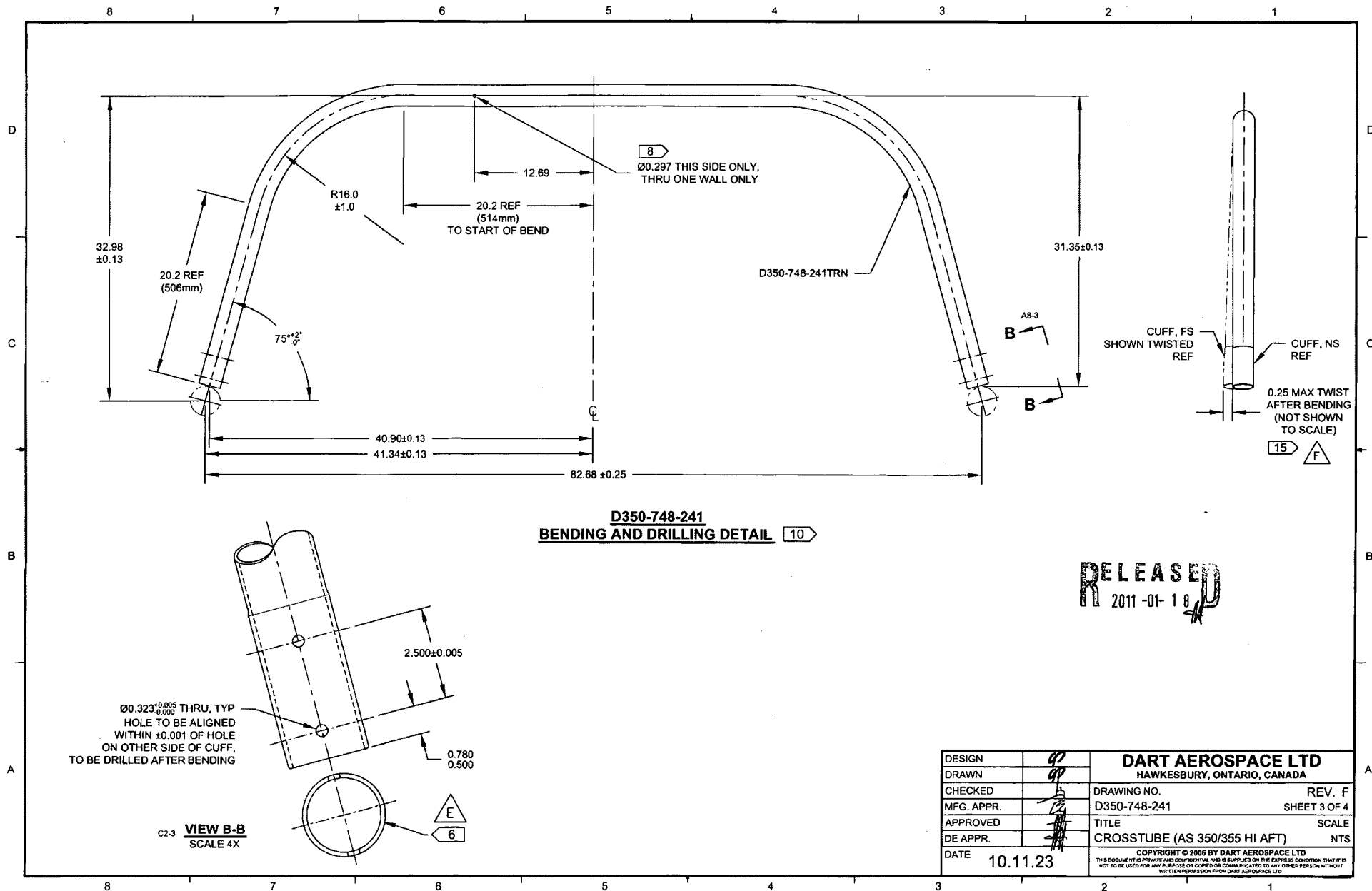
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

76254



DESIGN	92	<b>DART AEROSPACE LTD</b>	
DRAWN	92	HAWKESBURY, ONTARIO, CANADA	
CHECKED	92	DRAWING NO.	REV. F
MFG. APPR.	92	D350-748-241	SHEET 3 OF 4
APPROVED	92	TITLE	SCALE
DE APPR.	92	CROSSTUBE (AS 350/355 HI AFT)	NTS
DATE	10.11.23	COPYRIGHT © 2006 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

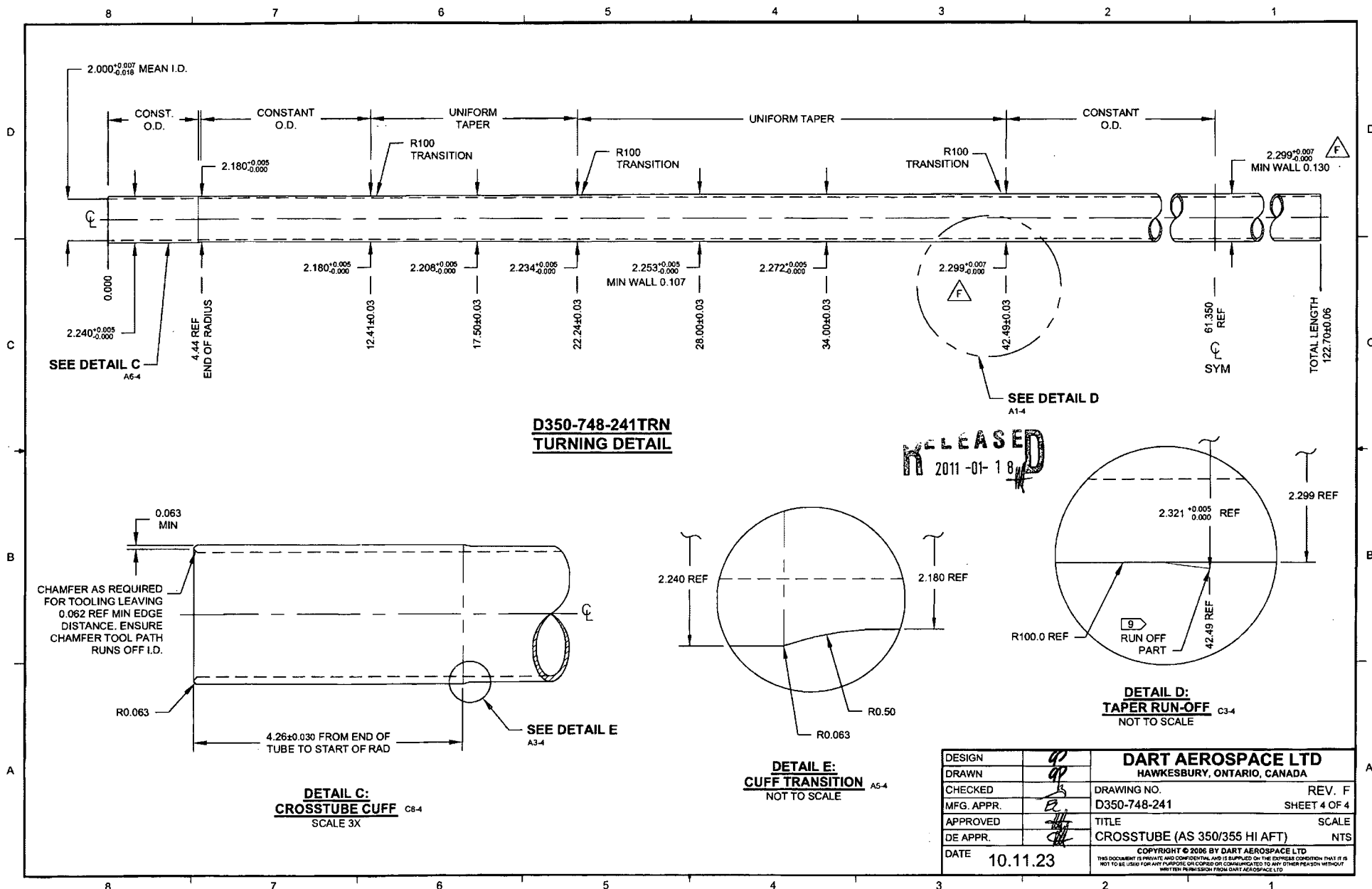
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



76254



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

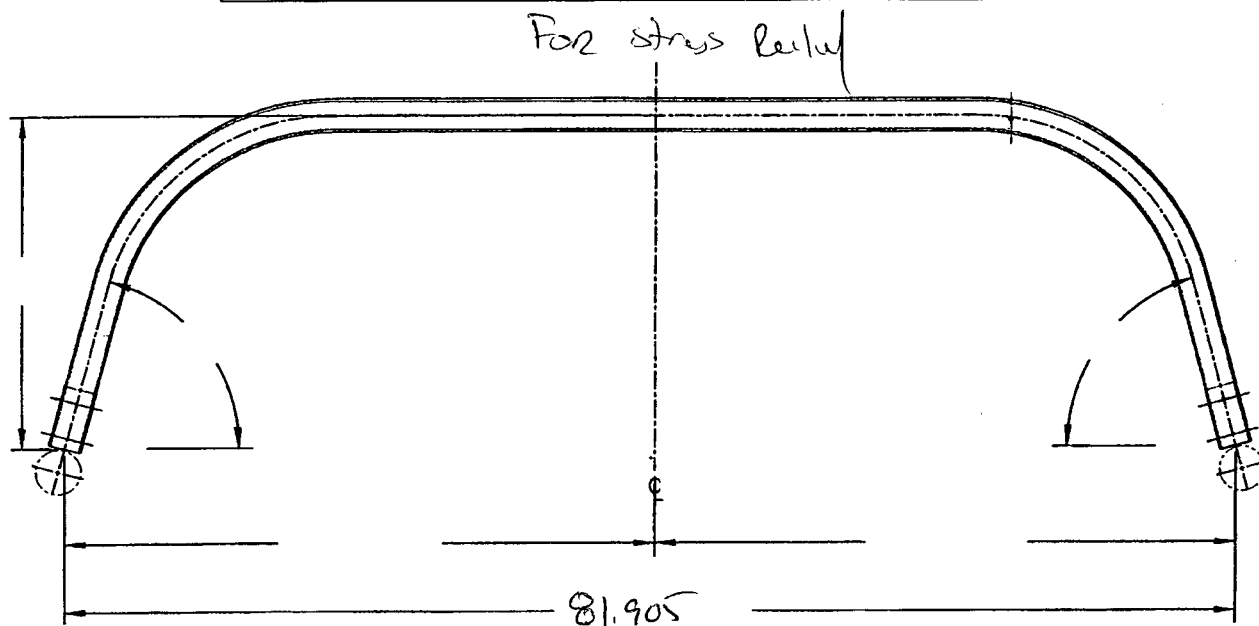
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 76254
<b>Description:</b> Crosstube High Aft (AS350/355)		<b>Part Number:</b> D350-748-201
<b>Inspection Dwg:</b> D350-748-241 <b>Rev:</b> E		<b>Page 1 of 1</b>

Required Dimension	Min	Max
Height	31.22	31.48
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06



Comments
twist - .109

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	10.08.23	Dwg Rev updated	KJ	<i>[Signature]</i>



**CADORATH GROUP**  
**NON CONFORMANCE REPORT**

CADORATH AEROSPACE ☐

CADORATH DISTRIBUTION ☐

CADORATH COATING ☒

UNIFLYTE ☐

NOTE: THIS FORM MUST BE COMPLETED BY: CUSTOMER ☒ VENDOR ☐ BEFORE PROCESSING OF PART(S)

NCR#: **C1115**

CUSTOMER: ☒ **Dart Aerospace Ltd.**

DATE: **02/24/12**

VENDOR: ☐ **N/A**

CADORATH/UNIFLYTE P/O #:

**N/A**

PART DESCRIPTION: **Skid (Crosstube)**

CADORATH/UNIFLYTE W/O #:

**111679/80/81/82/86**

CUSTOMER P/O #: **PO 15990**

PART #: **D350-748-101**

SERIAL #: **77767, 77768, 77769, 77770 and 76254** QUANTITY: **Five (5)**

PURCHASE ORDER INSTRUCTIONS: **MPI and Cad Plate**

DISCREPANCY: **These parts failed our MPI test after plating. They all have cracks. The parts were shipped back to your facility as of February 24, 2012.**

**Nick Wasylik (QA Manager)**

CADORATH/UNIFLYTE INSPECTION DEPARTMENT

CI  
14

02/29/12

CUSTOMER: ☒

VENDOR: ☐

PLEASE COMPLETE THIS PORTION, SIGN AND RETURN TOP COPY OF THIS FORM TO CADORATH/UNIFLYTE

DATE: **02/24/12**

P/O: **PO 15990**

CUSTOMER INSTRUCTIONS: ☐

**ATTENTION: Chantal Lavoie**

VENDOR CORRECTIVE ACTION: ☐

**Since the 5 parts were returned, this NCR is the notification that they were sent back for your evaluation.**

On your behalf,

AUTHORIZED SIGNATURE

CI  
14

02/29/12

**Nick Wasylik (QA Manager)**

NAME AND TITLE

DATE: 10/13/10

FORM: OPS 097  
REVISION: 3



LIQUID PENETRANT TEST REPORT

P- 14909

AGENT Dart AeroSpace DATE 03/02/2012 PAGE 1 OF 1  
ATTENTION LINDA L. ACUREN JOB NO. 188-12-C0058  
DRESS 1270 ABERDEEN POWO No. -  
HAWKES BULKY O.N. WORK LOCATION same  
ACCEPTANCE STD ASTM 1417/04-033 REV/DATE 2005  
OBJECT F.P.I. on CROSS TUBES  
ITEM(S) EXAMINED (9)

TEST DESCRIPTION PROCEDURE No. LT 002 REV/DATE 2008 TECHNIQUE No. LT 1002 REV/DATE 2008  
PART No. SEE RESULTS MATERIAL STEEL / Aluminum THICKNESS VARIOUS  
SCOPE A DET FLUORESCENT LIQUID PENETRANT EXAMINATION  
ON 100% OF EXTERNAL SURFACE

TEST DETAILS  
METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED  
FAMILY BRAND MAGNAFLUX BLACK LIGHT S/N 16459 ☐ OUTPUT > 1000  $\mu$ W/cm<sup>2</sup> ☐ AMBIENT < 2 fc  
PENETRANT Z667 MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE  
PENETRANT REMOVER 1120 MINIMUM DRY TIME >10 MIN. OTHER LABINO  
DEVELOPER SKD 52 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N 1098866 CAL DUE DATE 03/27  
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

TEST SURFACE  
SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL  
SURFACE TEMPERATURE ☐ < -4°C/20°F ☐ -4°C/20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

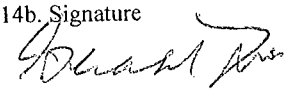

RESULTS- ( ☐ METRIC ☐ IMPERIAL )  

1 - W.O.	73924	x	REGRIND 1 TIME.
1 - W.O.	76252	✓	REGRIND 1 TIME.
1 - W.O.	75662	✓	REGRIND 1 TIME
1 - W.O.	75664	✓	
1 - W.O.	79934	✓	
1 - W.O.	79933	✓	
1 - W.O.	79019	✓	REGRIND 1 TIME
1 - W.O.	79018	✓	
1 - W.O.	76254	✓	

Siz 1/3/05

Scope of Services  
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended to be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacturing, repair and test decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.  
Standard of Care  
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES  
CLIENT REPRESENTATIVE Andrew Sheldon PRINT ASheldon SIGNATURE  
TECHNICIAN (SIGNATURE): Mike Johnston 1<sup>st</sup> TECHNICIAN  
NAME (PRINT): Mike Johnston 2<sup>nd</sup> TECHNICIAN  
CGSB LEVEL 5 SNT LEVEL 5 CGSB LEVEL 5 SNT LEVEL 5  
CGSB REG. NO. 66666 CGSB REG. NO. 66666  
DTR # EG8914  
REPORT REVIEWED BY: NAME INITIALS

1. Approving Civil Aviation Authority/Country <b>Transport Canada</b>		2. <b>AUTHORIZED RELEASE CERTIFICATE FORM ONE</b>			3. Form tracking No. HTV-3056 Page 1 of 1	
4. Approved organization name and address <b>HELITRADES INC. 18 Terry Fox Drive, Vankleek Hill, Ontario, K0B 1R0, Canada</b>					5. Work order/contract/invoice <b>H-18164</b>	
6. Item	7. Description	8. Part No.	9. Qty	10. Serial/Batch No.	11. Status/work	
1	CROSS TUBE	D350-748-201	2	N.S.N.	REPAIRED	
12. Remarks BRUSH CADMIUM PLATING APPLIED TO AFFECTED AREA.						
DOCUMENTATION FOR ALL WORK PERFORMED IS AVAILABLE ON FILE UNDER HELITRADES W/O SPECIFIED IN BLOCK # 5.						
13a. Certifies that the items identified above were manufactured in conformity to:			14a.			
<input type="checkbox"/> Approved design data and are in condition for safe operation.  <input type="checkbox"/> Non approved design data specified in block 12.			<input checked="" type="checkbox"/> CAR 571.10 Maintenance Release.  <input type="checkbox"/> Other regulations specified in block 12. Certifies that, except where otherwise specified in block 12, the work identified in block 11 and described in block 12 was performed in accordance with the Canadian Aviation Regulations.			
13b. Signature		13c. Approved Organization Number		14b. Signature		14c. Approved Organization Number
				 		AMO 3/86
13d. Name		13e. Date (dd/mm/yyyy)		14d. Name		14e. Date (dd/mm/yyyy)
				GERALD TOM		07-Mar-12
<p>"This certificate does not constitute authority to install.          Installers working in accordance with the national regulations of a country other than that specified in block 1 must ensure that their regulations recognize certifications from the country specified.          Statements in blocks 13a or 14a do not constitute installation certification. In all cases, the technical record for the aircraft must contain an installation certification issued in accordance with the applicable national regulations before the aircraft may be flown."</p>						

(Previously form 24-0078)

**HELITRADES INC.**

P.O. Box 162, 18 Terry Fox Drive  
Vankleek Hill, Ontario  
K0B 1R0, Canada  
TEL (613) 678-3027 FAX(613) 678-2776  
Email: helitrad@hawk.igs.net  
GST# R102320439

**STRIP REPORT:****H18164****STRIP REPORT DATE:**

07-Mar-2012

**CUSTOMER P.O.**

16345

**CUSTOMER I.D.:**

DART AEROSPACE

**DATE ITEM RECEIVED:**

05-Mar-2012

**SOLD TO:** DART AEROSPACE  
1270 ABERDEEN STREET**SHIP TO:**HAWKESBURY K6A 1K7  
LINDA/MELANIE**Part Number:** D350-748-201  
**Description:** CROSSTUBE (2ea)  
**Component ID:** 206-13**Serial Number:** UNKNOWN**Removed From:** UNKNOWN**GENERAL CONDITIONS AS RECEIVED:**  
GOOD.**UNIT RECEIVED FOR:** OVERHAUL \_\_\_\_\_ REPAIR   X   TEST \_\_\_\_\_ WARRANTY \_\_\_\_\_ INSP \_\_\_\_\_**WARRANTY ACCEPTED:** YES \_\_\_\_\_ NO \_\_\_\_\_ N/A   X  **REPORTED FAILURE:** TO BRUSH CAD REPAIRED AREAS.**WAS REPORTED FAILURE CONFIRMED:** YES   X   NO \_\_\_\_\_**REMARKS:**

CROSS TUBE REPAIRED AREAS BRUSH CADMIUM PLATED.

DATE March 07, 2012INSPECTOR Gerald Tom

S17103/08



# Work Order ID 76254

**\*76254\***

Page 1

November-08-11 7:48:18 AM

Item ID: D350-748-201



Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Crosstube Installation, High Aft

Start Date: 08/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 28/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 11/11/08 Tooling:

Date:

Run Start **\*NR1\***

QC:

Date: SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D350-748-241

F

100

0.00

**\*100\***

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPPD350-748-201 CHG002

MLJ 12/03/14

110

0.00

**\*110\***

BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT

DP

12 - 1 - 19

120

QC15- Crosstube Dimensional Check

0.00

**\*120\***

QC

Memo

0.00

Quality Control

8.7/03/09